


<b>EASA</b>	<b>AIRWORTHINESS DIRECTIVE</b>	
	<p><b>AD No.: 2013-0018</b></p> <p><b>Date: 21 January 2013</b></p> <p>Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.</p>	
<p>This AD is issued in accordance with EU 748/2012, Part 21.A.3B. In accordance with EC 2042/2003 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].</p>		
<p><b>Design Approval Holder's Name:</b> DIAMOND AIRCRAFT INDUSTRIES GmbH</p>		<p><b>Type/Model designation(s):</b> DA 40 NG aeroplanes</p>
TCDS Number:	EASA.A.022	
Foreign AD:	Not applicable	
Supersedure:	None	
<b>ATA 81</b>		
<b>Turbo Charger – Intercooler Installation / Charged Air Tubing – Inspection / Modification</b>		
Manufacturer(s):	Diamond Aircraft Industries GmbH (Austria) (DAI)	
Applicability:	<p>DA 40 NG aeroplanes, serial numbers (S/N) 40.N001 through 40.N084 inclusive, and</p> <p>DA 40 NG aeroplanes, all S/N, when converted from DA 40 D aeroplanes through embodiment of Optional Service Bulletin (SB) D4-080 by using Working Instruction WI-OSB-D4-080 up to Revision 6.</p>	
Reason:	<p>An occurrence of loss of engine charge air pressure was reported, which prompted an in-flight Engine Control Unit warning. The investigation results identified that chafing caused a hole in the charge air tubing where it touched the engine firewall. Further investigation results identified other DA 40 NG aeroplanes with chafing marks in this area.</p> <p>To prevent chafing between the charged air tube and engine firewall, DAI issued Recommended SB 40NG-011 to replace the charged air elbow hose between the turbocharger and intercooler with an aluminium tube to improve the durability of the charged air system.</p> <p>After issuance of SB 40NG-011, an additional occurrence of a hole in a charge air tube was reported, apparently caused by chafing. The results of the subsequent investigation revealed that the improved design cannot assure the necessary clearance between the charged air tubing and surrounding parts.</p> <p>This condition, if not detected and corrected, could lead to loss of charged air pressure, possibly resulting in loss of engine power and reduced control of the aeroplane.</p>	

	<p>To address this unsafe condition, DAI issued Mandatory SB 40NG-18, providing instructions to inspect the charged air tubing from the turbocharger to the intercooler and replacement of affected parts with an improved design.</p> <p>For the reasons described above, this AD requires repetitive inspections of charged air tubing for the presence of chafing marks and, depending on findings, replacement of damaged tubing, or installation of improved design tubing.</p>
Effective Date:	04 February 2013
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> <li>(1) Within 50 flight hours (FH) or 60 days, whichever occurs first after the effective date of this AD and, thereafter, at intervals not to exceed 50 FH, inspect the charged air tubing from the turbocharger to the intercooler for chafing marks in accordance with the instructions of DAI Mandatory SB MSB 40NG-018/1.</li> <li>(2) If, during any inspection as required by paragraph (1) of this AD, chafing marks are detected on charged air tubing, before next flight, replace the charged air tubing with a serviceable part in accordance with approved maintenance instructions, or replace the tubing with improved design parts in accordance with the instructions of DAI Mandatory SB MSB 40NG-018/1.</li> <li>(3) Within 200 FH or 12 months, whichever occurs first after the effective date of this AD, modify the aeroplane (installation of improved design parts) in accordance with the instructions of DAI Mandatory SB MSB 40NG-018/1.</li> <li>(4) Modification of an aeroplane as required by paragraph (3) of this AD constitutes terminating action for the repetitive inspections required by paragraph (1) of this AD for that aeroplane.</li> <li>(5) After modification of an aeroplane as required by paragraph (3) of this AD, do not install charge air elbow hose P/N SNS5X-O-60_72-90°, charge air tube P/N D44-8126-00-05 or charge air hose P/N D44-8122-00-10 on that aeroplane.</li> <li>(6) From the effective date of this AD, DAI Recommended SB 40NG-011 is considered to be no longer valid and any actions in accordance with the instructions of the SB are prohibited.</li> <li>(7) Inspections and replacements accomplished, before the effective date of this AD in accordance with DAI Mandatory SB MSB 40NG-018 at initial issue are acceptable to comply with the requirements of paragraphs (1), (2) and (3) of this AD.</li> </ol>
Ref. Publications:	<p>DAI MSB 40NG-018/1, dated 26 November 2012.</p> <p>The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.</p> <p>DAI Recommended SB 40NG-011, dated 28 February 2012.</p>
Remarks:	<ol style="list-style-type: none"> <li>1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.</li> <li>2. This AD was posted on 06 December 2012 as PAD 12-158 for consultation until 03 January 2013. No comments were received during the consultation period.</li> <li>3. Enquiries regarding this AD should be referred to the Safety Information Section, Executive Directorate, EASA. E-mail: <a href="mailto:ADs@easa.europa.eu">ADs@easa.europa.eu</a>.</li> <li>4. For any question concerning the technical content of the requirements in this AD, please contact:</li> </ol>

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